Oliver (C.A.)

# DESCRIPTION

OF A

# REVOLVING ASTIGMATIC DISK.

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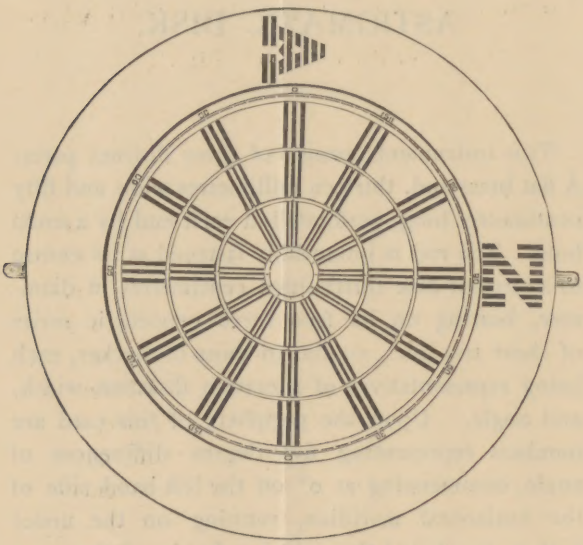
# DESCRIPTION OF A REVOLVING ASTIGMATIC DISK.

THIS instrument consists of three distinct parts: A flat brass rod, thirteen millimetres wide and fifty centimetres long, perforated at each end by a small hole. The rod is immovably fastened at its centre to a circular disk thirty-three centimetres in diameter, bearing on its face three concentric series of short test-lines, similar to those of Becker, each being representatives of a certain distance, width, and angle. Upon the periphery of this card are numbers representing five degree differences of angle, commencing at 0° on the left-hand side of the horizontal meridian, running on the under half up to 180° at the right-hand side of the same meridian. This is repeated in the opposite direction upon the upper semicircle, thus making the angles correspond, similar to the ordinary test-glass frame. Between the front card and the retaining rod there is a rotating disk forty-seven cen-

timetres in diameter, having two of Pray's letters placed at a quarter angle to each other (ninety degrees apart), each having a small arrow so fixed as to meet the number of degrees on the outer card, showing the exact angle reached.



The primary principles in this instrument are in no way new, and for them no originality is claimed, as this as well as all other forms and contrivances are mere modifications of Thomas Young's original optometer. The placing of two lines of equal

width and blackness at right angles to each other, which, to be seen with equal distinctness, must be set at different distances in reference to each other, if there be any asymmetry in the dioptric system of the eye.

The disk is to be fastened to a wall by the retaining rod, in a good light coming over the head of the observer placed at six metres' distance, and at a height so arranged as to bring the centre of the card on a level with the patient's eye.

If we find him able to see the 6 D. type with the eye under examination, he is to have his attention confined to the lines of the inner circle. If the sight of the eye be defective, he is to look at the outer circles. By now making him closely watch, we ask him to designate the clearest, sharpest, and blackest radius; after this has been chosen, we wheel the striped letter Z to the angle named, or to a point between, and ask which letter is the darker and clearer. He will then answer that the Z appears the plainer; now wheel the A into the place occupied by Z, and if it becomes the darker and the clearer, he will have verified his assertion, and the angles of astigmatism be obtained.[1]

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[1] If the patient's sight is so bad that he cannot make out any of the lines at six metres' distance, he must gradually approach the test, and watch for the first ~~angle~~ meridian brought out. We note the

Its employment in the estimation of ametropia, whilst the eye is under the influence of a mydriatic, is also of much value. I have several times, without the use of any test-types whatever, made experimental determination, and found that the results were identical with those obtained during the use of the letters. Yet it is no more than fair to state, that it was done with subjects of more than average intelligence, as really, although forming a most delicate test, it is harder to appreciate and keep in mind the slight observable changes of difference in the distinctness of the lines.

As an adjuvant in the verification of a corrected case of ametropia, it is of incalculable advantage. I always endeavor, after the selection of the correcting lenses, to have the two letters appear equally black and distinct in their entire revolution of the primary card, and that every spoke in the inner wheel (or those of the concentric widths, if I cannot bring vision up to normal) shall be of the same clearness, by these means getting the amount and angle of astigmatism almost to a dead certainty.

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distance and angle, and place the letter Z at the chosen meridian. He is then to walk nearer and nearer until the letter A and the lines at its meridian become as distinct as the letter Z and its lines. We accurately register this new distance, and calculate the difference.

These disks can be obtained from Mr. John L. Borsch, optician, No. 221 South Ninth Street, Philadelphia.

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